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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/917,437	07/27/2001	Vivek B. Nadkarni	TRMB964	9713

7590 06/24/2002

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EXAMINER

LAU, TUNG S

ART UNIT	PAPER NUMBER
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2863

DATE MAILED: 06/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/917,437

Applicant(s)

NADKARNI ET AL.

Examiner

Tung S Lau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

a. Claims 1, 3-8, 10, 12-15 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coles (U.S. Patent 4,956,921) in view of O'keefe at al. (U.S. Patent 5,922,951).

Coles discloses a method and system for determining scale factors or alignment angles of the sensitive axes in a multiple-axis acceleration, a multi-axis accelerometer device defined by a gravity vector, receiving respective output, determining scale factors with predicted output (col.3-5, lines 50-67), use of digital processor computer A/D converter (fig. 1, col. 4, lines 49-53)

Coles does not disclose the spinning of the axis of local gravity vector, O'keefe disclose such application using ideal accelerometer, to improve resolution of the system (col. 1, lines 1- 50, fig. 1-1A). multiple orientation while recording data (fig. 1-5), gravity vector equal to $g \sin(x) \times \cos(xt)$, $g \sin(x) \sin(xt)$, where x is angle and t is angle (table 1-4), filter output (fig. 2-5), use sample to predict scale

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factors (col. 1-2, lines 50-45), turn table configuration mounting in different orientation (1, 1A).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Coles to have the spinning of the axis of local gravity vector, multiple orientation while recording data, gravity vector equal to $g \sin(x) \times \cos(xt)$, $g \sin(x) \sin(xt)$, where x is angle and t is angle (table 1-4), filter output, use sample to predict scale factors taught by O'keefe in order to improve resolution of the system.

b. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Coles as applied to claims above, and further in view of Talwani et al (U.S. Patent 6,152,226)

The Coles combination disclose a method including the subject matter discussed above except the maintaining a constant angular velocity during recording, Talwani disclose such approach (col. 9-10, lines 32-20), in order to deal with differences between subsequent sets of data to increase system performance (col. 4-5, lines 65-22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Coles to have the constant angular velocity during

recording taught by Talwani in order to deal with differences between subsequent sets of data to increase system performance.

c. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Coles as applied to claims above, and further in view of Granere (U.S. Patent 5,435,168)

The Coles combination disclose a method including the subject matter discussed above except use of fourier transforms, Granere disclose such application (col. 5-6, lines 36-9), to provide accurate testing of an accelerometer and velocity transducers (col. 1-2, lines 64-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Coles to have use of fourier transforms taught by Granere in order to provide accurate testing of an accelerometer and velocity transducers.

2. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309. The examiner can normally be reached on M-F 9-5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John S Hilten can be reached on 703-308-0719. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TL



JOHN S. HILTEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800